

**IIIa. CIs, Instruments, and Deployments**  
**(Listed according to NDACC Complementary Station)**

**Alert, Canada (82.50°N, 62.33°W)**

Sondes (Aerosol)	H. Fast (MSC) and J. Rosen (U. Wyoming) – Backscatter measurements of aerosol profiles available for the winter from 1989 to 1993.
Sondes (Ozone)	H. Fast (MSC) – ECC sondes launched weekly since 1988.

**Heiss Island, Russia (80.6°N, 58.1°E)**

Sondes (Aerosol)	J. Rosen (U. Wyoming) and V. Khattatov (CAO) – Backscatter measurements of aerosol profiles available for the winter from 1989 to 1992.
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**Resolute, Canada (74.7°N, 95.0°W)**

Sondes (Aerosol)	H. Fast (MSC) and J. Rosen (U. Wyoming) – Backscatter measurements of aerosol profiles available for October 1991.
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**Scoresbysund, Greenland (70.48°N, 21.97°W)**

Sondes (Aerosol)	N. Larsen (DMI) and J. Rosen (U. Wyoming) – Backscatter measurements of aerosol profiles available for January 1994 – February 1996.
Sondes (Ozone)	S. B. Andersen (DMI) – ECC sondes launched weekly since 1989.
UV/Vis. Spectrometer	F. Goutail (CNRS) and S. B. Andersen (DMI) – SAOZ system operated since 1990.

*Shaded sites and instruments are inactive*

**Andøya, Norway (69.3°N, 16.0°E)**

Lidar (Ozone)	G. Hansen (NILU) – DIAL system operated at ALOMAR Observatory since December 1994.
Lidar (Temperature)	A. Hauchecorne (CNRS) – Rayleigh/Mie/Raman system operated since 1995 at ALOMAR Observatory. Data archived for 1995 and 1996.

**Kiruna, Sweden (67.84°N, 20.41°E)**

FTIR	U. Raffalski (IRF), T. Blumenstock (IMK), and Y. Matsumi (STEL) – Bruker 120HR (0.002 cm <sup>-1</sup> resolution) fitted with four detectors for solar and lunar measurements. Intercompared with the NPL instrument in March 1998.
Sondes (Aerosol)	N. Larsen (DMI) and J. Rosen (U. Wyoming) – Backscatter measurements of aerosol profiles available for the winter from 1991 to 2002.
UV/Vis. Spectrometer	P. V. Johnston and W. A. Matthews (NIWA) – Operating for NO <sub>2</sub> and ozone since 1991; extended to BrO and OClO in 1997.

**Salekhard, Russia (67.5°N, 67.5°E)**

Sondes (Aerosol)	J. Rosen (U. Wyoming) and V. Yushkov (CAO) – Backscatter measurements of aerosol profiles available for March 1999 and January 2000.
Sondes (Ozone)	V. Dorokhov (CAO) – Two launches per week from January to March since 1998.

**Sodankylä, Finland (67.37°N, 26.65°E)**

Dobson/Brewer	E. Kyrö (FMI) – Brewer observations beginning May 1988.
Sondes (Aerosol)	E. Kyrö (FMI) and J. Rosen (U. Wyoming) – Backscatter measurements of aerosol profiles available for the winter since 1994.

*Shaded sites and instruments are inactive*

Sondes (Ozone)	E. Kyrö (FMI) – Year round soundings approximately once per week with additional launches during winter and campaigns.
UV/Vis. Spectrometer	F. Goutail (CNRS) and E. Kyrö (FMI) – SAOZ system operated since February 1990.

**Zhigansk, Russia (67.2°N, 123.4°E)**

UV/Vis. Spectrometer	F. Goutail (CNRS) and V. Dorokhov (CAO) – SAOZ system operated since December 1991.
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**Arkhangel'sk, Russia (64.6°N, 40.5°E)**

Sondes (Aerosol)	J. Rosen (U. Wyoming) and V. Khattatov (CAO) – Backscatter measurements of aerosol profiles available for November – December 1993.
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**Fairbanks, AK, USA (64.82°N, 147.87°W) – Inactive**

FTIR	G. Toon (JPL) – Data during POLARIS campaign (summer 1997). See entry under Mt. Barcroft, CA for details.
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**Yakutsk, Russia (62.0°N, 130.9°E))**

Sondes (Aerosol)	J. Rosen (U. Wyoming) and V. Yushkov (CAO) – Backscatter measurements of aerosol profiles available for the winter since 1995.
Sondes (Ozone)	V. Dorokhov (CAO) – ECC sondes launched twice per week from January to March, and once per month from April to December. Program began in 1995.

*Shaded sites and instruments are inactive*

**Harestua, Norway (60.2°, 10.8°E)**

FTIR	J. Mellqvist, B. Galle, and A. Strandberg (Chalmers) – Bruker 120M (0.0035 cm <sup>-1</sup> resolution) measurements conducted throughout the year, but mainly during winter at the Solar Observatory. Intercompared with the NPL instrument in September/October 1994. Data available since late 1994. Current retrieval algorithm is SFIT2 v.3.81.
UV/Vis. Spectrometer	M. Van Roozendaal (IASB-BIRA) – Two DOAS systems operated since January 1994 (one for NO <sub>2</sub> and ozone, the other for BrO and OClO).

**Lerwick, UK (60.1°N, 1.1°E) – Inactive**

UV/Vis. Spectrometer	G. Vaughan (U. Manchester) – Data during EASOE campaign (November 1991 to April 1992). See entry under Aberystwyth, UK for details.
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**Onsala, Sweden (57.4°N, 11.93°E)**

Microwave (Water Vapor)	P. Forkman, P. Eriksson, G. Elgered, D. Murtagh, and A. Winnberg (OSO) – Data from microwave (water vapor) 22-GHz radiometer operating at Onsala Space Observatory since 2002.
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**Aberdeen, UK (57°N, 2°W) – Inactive**

UV/Vis. Spectrometer	G. Vaughan (U. Manchester) – Data during SESAME campaign (February to April 1994). See entry under Aberystwyth, UK for details.
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*Shaded sites and instruments are inactive*

**Zvenigorod, Russia (55.7°N, 36.8°E)**

UV/Vis Spectrometer	A. Gruzdev and A. Elokhov (IAP) – Morning and evening NO <sub>2</sub> measurements since 1990. Hosted instrument intercomparison in September 1997.
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**Bremen, Germany (53.1°N, 8.8°E)**

FTIR	J. Notholt (U. Bremen) – Bruker 120HR through 2003, Bruker 125HR since 2004. Maximum resolution 0.0028 cm <sup>-1</sup> . Typically make one or two observations per week. Retrieval with SFIT2 and GFIT. The flat surroundings are conducive to satellite validation. The FTIR observations are complemented by microwave and DOAS measurements.
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**Legionowo, Poland (52.40°N, 20.97°E)**

Sondes (Ozone)	B. Kois, Z. Litynska, and A. Jaczewski (IMWM) – ECC sondes launched weekly since June 1993. Additional sondes have been launched in concert with the MATCH campaigns and the Envisat/SCIAMACHY validation program. Database extends back to 1979 with OSE sondes. The station's WMO number is 12374.
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**DeBilt, The Netherlands (52.10°N, 5.18°E)**

Dobson/Brewer	M. Allaart (KNMI) – Brewer No. 100.
Sondes (Ozone)	M. Allaart (KNMI) – Database extends back to 1992.

*Shaded sites and instruments are inactive*

**Aberystwyth, UK (52.0°N, 4.0°W)**

Sondes (Ozone)	G. Vaughan (U. Manchester) – Soundings on a campaign basis since 1991. Activity has been completed.
UV/Vis. Spectrometer	G. Vaughan (U. Manchester) – SAOZ system operated since 1991. Also has made measurements at Lerwick, UK (60.1°N, 1.1°E) and Aberdeen, UK (57°N, 2°W) during the EASOE (November 1991 to April 1992) and SESAME (February to April 1994) campaigns, respectively.

**Uccle, Belgium (50.8°N, 4.35°E)**

Dobson/Brewer	H. De Backer (RMIB) – Brewer and Dobson measurements. Dobson No. 40 will be stopped, refurbished, and relocated to Reunion Island.
Sondes (Ozone)	H. De Backer (RMIB) – Brewer-Mast sondes launched three times per week from 1969 to March 1997. Z-ECC sondes used since April 1997.

**Villeneuve d'Ascq, France (50.65°N, 3.08°E)**

Spectral UV	C. Brogniez (U. de Lille) – Measurements of UV spectroradiometer irradiance, with a double monochromator, initiated in May 1997, and continuous since then with some interruptions due to instrument problems. The instrument took part in the SUSPEN intercomparison campaign (July 1997), and the instrument validation project QASUME (September 2004).
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**Prague, Czech Republic (50.01°N, 14.45°E)**

Sondes (Ozone)	P. Skrivankova (CHMI) - Weekly ECC sondes since January 1992 for profile measurements from 0 to 34 km. More frequent launches have occurred during specific campaigns.
040Sondes (Radio)	P. Skrivankova (CHMI) - NSS14A radioactivity sensor launched once every four months since August 1994 for beta and gamma profile measurements from 0 to 34 km.

*Shaded sites and instruments are inactive*

**Hohenpeissenberg, Germany (47.80°N, 11.02°E)**

Dobson/Brewer	U. Köhler (DWD) – Daily Dobson observations beginning May 1967; since 1986 only on work days. Daily Brewer observations since January 1984.
Lidar (Ozone and Temperature)	H. Claude and W. Steinbrecht (DWD) – Ozone and temperature measurements from 15 to 50 km and 30 to 60 km, respectively, several times per month since October 1987.
Sondes (Ozone)	H. Claude (DWD) – Observations with Brewer-Mast ozonesondes three times per week since 1967.

**Arosa, Switzerland (46.78°N, 9.68°E)**

Dobson/Brewer	R. Stübi and P. Viatte (MeteoSwiss) – Daily Dobson observations beginning July 1926.
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**Moshiri, Japan (44.4°N, 142.3°E)**

UV/Vis. Spectrometer	Y. Matsumi (STEL), M. Koike and Y. Kondo (U. Tokyo), and P. V. Johnston (NIWA) – Measurements of NO <sub>2</sub> and ozone have been made at the Observatory available since 1991.
FTIR	T. Nagahama (STEL) – Bruker 120HR (0.0028 cm <sup>-1</sup> resolution) operating at the Observatory since April 1996.

**Toronto, Canada (43.66°N, 79.40°W)**

FTIR	K. Strong (U. Toronto) - Bomem DA8 (0.004 cm <sup>-1</sup> resolution) installed October 2001; routine measurements since May 2002.
Lidar (Ozone)	H. Fast (MSC) – DIAL system with year-round nighttime measurements from late 1990 through April 2000 and during the 2001/2002 winter; also retrieved aerosol and temperature profiles.
Lidar (Aerosol and Temperature)	H. Fast (MSC) – Year-round operation of Rayleigh system from late 1989 through April 2000.

*Shaded sites and instruments are inactive*

**Rikubetsu, Japan (43.5°N, 143.8°E)**

FTIR T. Nagahama (STEL) – Bruker 120M (0.004 cm<sup>-1</sup> resolution) installed in May 1995. Tested at Toyokawa (35°N, 137°E) from December 1994 to April 1995.

UV/Vis. Spectrometer Y. Matsumi (STEL), M. Koike and Y. Kondo (U. Tokyo), and P. V. Johnston (NIWA) – Measurements of NO<sub>2</sub> and ozone were made at the Observatory from March 1994 to October 1997.

**Issyk-Kul, Russia (42.6°N, 77.0°E)**

UV/Vis Spectrometer V. Sinyakov (IEM) and V. Semyonov (KSNU) – Morning and evening NO<sub>2</sub> measurements. Participated in 1997 intercomparison at Zvenigorod.

**Laramie, WY, USA (41.32°N, 105.67°W)**

Sondes (Aerosol) J. Rosen (U. Wyoming) – Backscatter measurements of aerosol profiles available for May 1989 – September 2000.

**Boulder, CO, USA (39.99°N, 105.26°W)**

Dobson/Brewer R. Evans and S. J. Oltmans (GMD) – Daily Dobson observations beginning September 1966.

Sondes (Ozone) B. Johnson (GMD) - Weekly ECC sondes since June 1991.

Spectral UV D. J. Hofmann, S. J. Oltmans, and M. S. O'Neill (GMD) and R. L. McKenzie (NIWA) – Measurements of spectral UV irradiance since June 1998. Three different NIWA double monochromators have been used. Three different sites have been used in and around Boulder. The present instrument has been in use since August 2001, and was included in the 2003 Table Mountain UV Spectroradiometer Intercomparison.



*Shaded sites and instruments are inactive*

**Greenbelt, MD, USA (38.9°N, 76.7°W)**

Lidar (Aerosol, Temperature, and Water Vapor)	T. J. McGee (GSFC), G. Sumnicht (SSAI), and L. Twigg (SSAI) – The Aerosol and Temperature Lidar (AT Lidar) has been rebuilt, and now includes water vapor to >10 km, temperature in the troposphere using rotational Raman backscatter, stratospheric temperature up to ~80 km, and aerosol parameters using elastic and Raman backscatter up to ~35 km. This instrument has participated in campaigns at Table Mountain Facility (34.4°N, 117.7°W), and Mauna Loa (19.54°N, 155.58°W), and is being prepared for campaigns at Beltsville, MD (39.06°N, 76.74°W) and Table Mountain Facility in the summer/fall 2006,
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**Wallops Island, VA, USA (37.94°N, 75.46°W)**

Dobson/Brewer	F. J. Schmidlin (WFF) and R. Evans (GMD) – Daily Dobson observations beginning June 1967.
Sondes (Ozone)	F. J. Schmidlin (WFF) – ECC sondes have been launched since July 1967.

**Mt. Barcroft, CA, USA (37.6°N, 118.2°W)**

FTIR	G. C. Toon (JPL) – Operation of a home-built interferometer (JPL MkIV with 0.006 cm <sup>-1</sup> resolution) beginning in October 1998. Interim deployment at Table Mountain Facility (34.4°N, 117.7°W) from January to August 1998. A dataset from JPL (Pasadena, CA: 34.20°N, 118.17°W) also exists dating back to 1988. Database from POLARIS campaign (summer 1997) also archived for Fairbanks, AK (64.82°N, 147.87°W). Archived database exists from SOLVE/THESEO campaign (winter 1999/2000) from Esrange, Sweden (67.9°N, 21.1°E). Additional data obtained from Esrange from January to April 2003. Balloon-borne data for this instrument also exist for mid- and high-latitudes.
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*Shaded sites and instruments are inactive*

**Suwon, Korea (37.2°N, 127.6°E)**

Lidar (Aerosol)	C. H. Lee (ILE) – Permanent operation of 1064/532 nm system since November 1995. Upgraded to 1064/532/355-nm system in October 1998. Currently accepted for retrievals from 1 to 30 km (532 nm) and 10 to 30 km (355 nm); possible extension of acceptable range being evaluated. Also retrieves water vapor (1 to 10 km).
Lidar (Ozone)	C. H. Lee (ILE) – Permanent operation since September 1992. Also retrieves aerosol backscattering ratio. Currently accepted for retrievals from 10 to 35 km. Upgraded for improved retrievals from 10 to 50 km in July 1998 (results being evaluated).

**Tsukuba, Japan (36.05°N, 140.13°E)**

Lidar (Ozone)	H. Nakane (NIES) – Permanent operation since mid-1988. Also retrieves temperature and aerosols.
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**Kiso, Japan (35.8°N, 137.6°E) – Inactive**

UV/Vis. Spectrometer	Y. Kondo (U. Tokyo) and P. V. Johnston (NIWA) – Measurements of NO <sub>2</sub> and ozone were made at the Observatory from 1992 to 1996.
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**Table Mountain, CA, USA (34.4°N, 117.7°W)**

Lidar (Aerosol)	I. S. McDermid, T. Leblanc, and T. D. Walsh (JPL) – Aerosol measurements at four wavelengths from July 1991 to 1998.
Lidar (Aerosol, Ozone, Temperature)	I. S. McDermid, T. Leblanc, and T. D. Walsh (JPL) – Aerosol, ozone, and temperature database extends back to February 1988. Instrument has been used for testing, research, and intercomparisons.
Lidar (Ozone – Trop.)	I. S. McDermid, T. Leblanc, and T. D. Walsh (JPL) – Tropospheric ozone system operational since November 1999.

*Shaded sites and instruments are inactive*

Microwave (Ozone)	A. Parrish (Millitech & U. MA), and I. S. Boyd and B. J. Connor (NIWA) – Deployed from August 1989 – June 1992 prior to permanent siting at Lauder (see entries in Section Ia and Ib).
Microwave (Water Vapor)	G. Nedoluha, R. M. Gomez, and R. Bevilacqua (NRL) – Instrument #1 (WVMS1) deployed from January to October 1992 and May to November 1993; WVMS3 deployed from September 1995 until March 1996 when it was moved to Mauna Loa (19.54°N, 155.58°W); WVMS2 deployed September 1993 to November 1997 and from November 2003 to present.

**Pasadena, CA, USA (34.2°N, 118.2°W)**

FTIR	G. Toon (JPL) – Database extends back to 1988. See entry under Mt. Barcroft, CA for details.
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**Kitt Peak, AZ, USA (31.9°N, 111.6°W)**

FTIR	C. Rinsland (LaRC) – Continuous record of infrared solar spectra (dating back to 1976) using the FTS (0.005 cm <sup>-1</sup> resolution) in the McMath Pierce Telescope.
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**Izaña (Tenerife), Spain (28.3°N, 16.5°W)**

Dobson/Brewer	A. Redondas and E. Cuevas (INM) – Brewer measurements initiated in May 1991 using a Mark II single monochromator. Replaced with a double Brewer in July 1998.
FTIR	T. Blumenstock (IMK) – Measurements performed using a Bruker 120M (0.0035 cm <sup>-1</sup> resolution) since February 1999. Replaced with a Bruker 120HR (0.0035 cm <sup>-1</sup> resolution) in 2005.
Sondes (Ozone)	A. Redondas and E. Cuevas (INM) - Weekly ECC sondes since November 1992 for profile measurements from 0 to 34 km. More frequent launches have occurred during specific campaigns.
UV/Vis. Spectrometer	M. Gil (INTA) – Measurements conducted December 1998; continues the NO <sub>2</sub> data set started in 1993 with a scanning spectrometer (that is still operating). Instrument certified for NO <sub>2</sub> measurements during the 1996 OHP intercomparison. Also retrieve column abundances of ozone, H <sub>2</sub> O, and O <sub>4</sub> .

*Shaded sites and instruments are inactive*

**Paramaribo, Surinam (5.75°N, 55.2°W)**

Dobson/Brewer	M. Allaart (KNMI) and C. Becker (Met. Service, Paramaribo) – Continuous observations of total ozone and the UV spectrum, complemented by Umkehr zenith sky observations at dusk and dawn, have been made using a Brewer MkIII since April 1999.
Sondes (Ozone)	M. Allaart (KNMI) and C. Becker (Met. Service, Paramaribo) – Weekly balloon sondes launched year-round since September 1992, measuring profiles of ozone (ECC-6a cell), temperature, pressure, humidity, and wind (using GPS).

**Tarawa, Kiribati Republic (1.4°N, 172.9°E)**

UV/Vis. Spectrometer	F. Goutail (CNRS) and P. V. Johnston (NIWA) – SAOZ system operated since July 1992. Operations ceased in 1999.
	P. V. Johnston (NIWA) – NIWA system for NO <sub>2</sub> and ozone operated since mid-1995. Measurements ceased in May 1999 due to a computer failure; future operations are uncertain.

**Natal, Brazil (5.9°S, 35.2°W)**

Sondes (Aerosol)	J. Rosen (U. Wyoming) – Backscatter measurements of aerosol profiles available on a campaign basis for November 1995 to November 2003.
Sondes (Ozone)	F. J. Schmidlin (WFF) – Weekly ECC sondes since July 1967.

**Ciater/Bandung, Indonesia (6.4°S, 107.4°E)**

UV/Vis. Spectrometer	Y. Kondo (Tokyo U.) and W. A. Matthews (NIWA) – NIWA system for NO <sub>2</sub> and ozone operated since August 1994.
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*Shaded sites and instruments are inactive*

**Cape Matatula, American Samoa (14.25°S, 170.56°W)**

Dobson/Brewer	R. Evans and S. J. Oltmans (GMD) – Daily Dobson observations beginning December 1975.
Sondes (Ozone)	B. Johnson (GMD) - Weekly ECC sondes since June 1991.

**Reunion Island, France (20.8°S, 55.5°E)**

FTIR	M. De Mazière (IASB-BIRA) – Bruker 120M operating on a campaign basis since 2002. Plan to install this instrument at the St. Denis campus in 2008 for quasi-permanent operation. Will install Bruker 125HR when the new NDACC building at the mountain site is complete, perhaps in 2010 or 2011.
Lidar (Ozone)	J. L. Baray (U. de la Réunion) and S. Godin-Beekmann (CNRS) – Stratospheric ozone DIAL system installed in May 2000. Year-round ozone profiles from 15 to 45 km. Instrument encountered problems from 2002 to 2005.
Lidar (Temperature)	H. Bencherif (U. de la Réunion) and Ph. Keckhut (SA-IPSL) – Measurements since April 1994 using Nd:YAG system similar to that at OHP. Raman and polarization channels were added in November 1997.
Lidar (Aerosol)	T. Portafaix (U. de la Réunion) and C. David (SA-IPSL) – Measurements since April 1994 using Nd:YAG system similar to that at OHP. Raman and polarization channels were added in November 1997. Operations temporarily suspended at present.
Sondes (Ozone)	F. Posny (U. de la Réunion) – Measurements since September 1992. The launch frequency has been once per week since 1999. Replaced receiving equipment and acquisition software for NOAA GMD system in October 2003.
UV/Vis. Spectrometer	F. Goutail (CNRS) and T. Portafaix (U. de la Réunion) – SAOZ system operating since August 1993.

**Bauru, Brazil (22.3°S, 49.0°W)**

UV/Vis. Spectrometer	F. Goutail (CNRS) and G. Held (UNESP) – SAOZ system for NO <sub>2</sub> and ozone operating since November 1995.
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*Shaded sites and instruments are inactive*

**Wollongong, Australia (34.45°S, 150.88°E)**

FTIR	N. Jones and D. Griffith (U. Wollongong) – Bomem DA8 (0.004 cm <sup>-1</sup> resolution) operated since May 1996. Earlier measurements (since December 1994) were made using a Bomem DA3 (0.02 cm <sup>-1</sup> resolution).
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**Kerguelen Island (49.3°S, 70.3°E)**

UV/Vis. Spectrometer	F. Goutail (CNRS) – SAOZ system for NO <sub>2</sub> and ozone operating since December 1995.
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**Campbell Island, NZ (53.4°S, 169.0°E) – Inactive**

UV/Vis. Spectrometer	S. Wood (NIWA) – NIWA system for NO <sub>2</sub> and ozone operated at this location from 1984 through September 1995, when the system was moved to Macquarie Island, Australia (54.50°S, 158.95°E). The investigators have been unable to archive the data due to insufficient resources, but hope to do so in the future.
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**Macquarie Island, Australia (54.50°S, 158.95°E)**

UV/Vis. Spectrometer	K. Kreher and P. V. Johnston (NIWA) – NIWA system for NO <sub>2</sub> and ozone moved to this location from Campbell Island, NZ (53.4°S, 169.0°E) in September 1995.
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**Faraday, Antarctica (65.25°S, 64.27°W) – Inactive**

UV/Vis. Spectrometer	H. Roscoe (BAS) – SAOZ system operated at this location from January 1990 until the station closed in December 1995. System operating at Rothera, Antarctica (67.57°S, 68.12°W) since January 1996.
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**Rothera, Antarctica (67.57°S, 68.12°W)**

UV/Vis. Spectrometer	H. Roscoe (BAS) – SAOZ system operated at Faraday (UK Antarctic Station: 65.25°S, 64.27°W) from January 1990 until the station closed in December 1995. System operating at this location since January 1996.
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*Shaded sites and instruments are inactive*

**Syowa Base, Antarctica (69.01°S, 39.59°E)**

UV/Vis. Spectrometer      Y. Kondo (Tokyo U.) and W. A. Matthews (NIWA) – NIWA system for NO<sub>2</sub> and ozone operated since 1990.

**Neumayer Station, Antarctica (70.62°S, 8.37°E)**

Sondes (Ozone)              G. König-Lango and O. Schrems (AWI) – Vaisala ECC-6a sondes launched weekly since 1992, with increased frequency during Austral spring.

UV/Vis. Spectrometer      B. Dix, U. Friess, and U. Platt (U. Heidelberg) - Dual-channel DOAS spectrograph installed in January 1999 for measuring ozone, NO<sub>2</sub>, OClO, and BrO.

**Mobile/Campaign Instruments**

FTIR                          J. Hannigan, M. Coffey, and W. Mankin (NCAR) – Campaign data from Søndre Stromfjord (67.02°N, 50.72°W) have been archived from October 1994 to March 1995.

Microwave (ClO)            R. de Zafra (SUNY) – See entry under “Microwave (Ozone).” Deployments for ClO include Thule (76.53°N, 68.74°W) for the winters of 1992 and 1993 and McMurdo (77.85°S, 166.63°E) for the austral springs of 1992 to 1995. N<sub>2</sub>O measurements are available at Thule for the winter of 1992 and at McMurdo for the austral spring of 1994.

R. de Zafra (SUNY) – Measurements (using the SIS receiver/spectrometer) were made during the austral springs of 1997 and 1998 at Antarctic Station (McMurdo: 77.85°S, 166.63°E) for an intercomparison with the Millitech instrument at Scott Base (see entries in Sections Ia and Ib).

Microwave (Ozone)        R. de Zafra (SUNY) – Two mm wave spectrometers (a rebuild of the original SUNY instrument and a new unit) have operated in a campaign mode since 1990. Deployments for ozone include South Pole Station (90.00°S) for 11-month periods in 1993 and 1995. Also has retrieved N<sub>2</sub>O, HNO<sub>3</sub>, and NO<sub>2</sub>.

*Shaded sites and instruments are inactive*

Microwave (Ozone)

R. de Zafra and G. Muscari (SUNY) – Conducted winter deployments at Thule (76.53°N, 68.74°W) in 2002 and 2003, measuring ozone (up to about 60 to 70 km) and CO. Each species was measured once daily for about five weeks, weather permitting. HNO<sub>3</sub> and N<sub>2</sub>O are available from 2002.